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ABSTRACT

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Technology and Mentally Handicapped Individuals: Speculations on the Future

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Abstract

This paper deals with how technological developments affect the lives of handicapped individuals, with special emphasis on mental retardation. Speculations are made concerning how alternative technological models, such as the intermediate technology of E. F. Schumacher, may have a more positive impact on the lives of mentally retarded individuals than do the present technological systems of industrialized societies.

Technology and Mentally Handicapped Individuals: Speculations on the Future

I should perhaps forewarn the audience that the presentation you are about to hear is broad-ranging, philosophical and speculative. Although you are forwarned, I make no apology, since I feel that the fact that this is an international congress with a focus on the future justifies, if not necessitates, such a presentation. My rationale is, I believe, best summed up in a quote by Louis Dexter, who said, "...in the seemingly practical field of mental retardation we need to...encourage and listen to political and social philosophy, just as much as we need to develop field research studies. The two should go together; but in view of the greater likelihood that government will finance empirical field studies, it would perhaps be appropriate for private associations and foundations to concentrate on financing the opportunity for political and social reflection--bearing in mind in both cases that the wider the perspective, the broader the framework, the greater the likelihood of valuable results" (1963, p. 36). Thus, what I hope to do here is discuss how recent technological developments in the industrialized countries have affected the mentally handicapped, speculate on what future trends appear to be on the horizon, and point to a technological/economic model that has more positive implications for retarded individuals than does the presently dominant technological structure of the developed world.

Much has been written on the fact that mental retardation is a culturally and socially determined concept. For example, Louis Dexter, in his classic article "On the Politics and Sociology of Stupidity in

Our Society," stated, "It may well be that there is a brain damage affecting all mental defectives, not otherwise physiologically abnormal, and that this will ultimately be ascertained. Even supposing this to be so, the brain damage is not necessarily the important point. To the medieval leper, the sociology of leprosy was often more important than its pathology..and so, to the.. mental defective, attitudes to his affliction may matter more than its genesis"(1967, p. 49). A more foreboding statement was made by David McClelland when, writing in the American Psychologist, he warned that, "...psychologists should recognize that it is those in power in society who often decide what is a handicap. We should be a lot more cautious about accepting as ultimate criteria of ability the standards imposed by whatever group happens to be in power" (1973, p. 6). Finally, Baumeister and Muma, in a 1975 article, stated flatly, "...on the basis of empirical evidence the argument can be made that mental retardation is as much a condition of society as a condition of the individual" (p. 300).

It is clear from the above that the culturally relative nature of the concept of mental retardation has not gone unnoticed. Nevertheless, it is rare to find a discussion of the full political and social implications of treating mental retardation as a culturally relative concept. This paper will develop the argument that one can predict the effect of technological and economic developments on the lives of retarded individuals (and, to some extent, other handicapped persons), once one accepts the full implications of a socially relative concept of retardation. The position will also be taken that it is important for developing nations to recognize how technological developments and the labeling of people as retarded are interrelated.

Knowledge of the relationship can determine how a nation deals with its mentally retarded population. Indeed, it can even determine whether a nation will have such a population.

Some of the ideas that form the background for the present paper were discussed by Bernard Farber in his Mental Retardation: Its Social Context and Social Consequences (1968). The crucial concept is that of the mentally retarded as a surplus population. Surplus populations are created when societies, instead of adjusting social structures to accommodate the existing population, assume a fixed social structure and define any individual that does not find a role in this structure as "useless," "outcast," or "defective" (i.e., unneeded surplus). Once one conceptualizes retarded individuals as comprising a surplus population, the culturally relative nature of the concept of retardation becomes obvious. Conversely, medical models of retardation seem irrelevant at best. A change in social structure that leads to the utilization of the productive labors of some retarded individuals renders a "cure" without any intervention at the physiological or behavioral level.

The size of a society's surplus population depends crucially on the prevailing economic and technological systems. The United States provides an example of a competitive, industrial, capital-intensive economy. Such a high-technology economy inevitably produces large groups of surplus individuals. The dynamics involved are that of an elite group of highly trained individuals directing an energy-intensive economy that makes the labor of increasing numbers of people redundant. Indeed, Farber (1968) estimates that 20-25% of the people in the United States can be classified as surplus population. One group who inevitably become a surplus population are mentally retarded individuals. The

mechanical devices of the energy-intensive economy slowly destroy those jobs that retarded individuals are capable of performing. Thus, the reliance on this type of technological-economic model literally creates a surplus population. Society then quickly attaches a label to this population (e.g., "mentally retarded") to justify excluding these individuals from the mainstream of social life. Farber (1968) has stated that there is "...a fundamental conflict between a system based on competitive values and attempts to integrate surplus populations in the major social institutions. The ambivalence in the treatment of the mentally retarded seems to be inherent in the structure of modern industrial society (p. 270)."

It is possible, however, to develop an economic and technological structure that minimizes the size of the surplus population. Modern China is an example of a labor-intensive economy where few people are defined as surplus. Indeed, even small children engage in labor that produces goods which are actually used in the society (see W. Kessen, Childhood in China, 1975). The contrast with modern industrial nations that cannot employ even their able-bodied adults could not be more marked. One cannot imagine the present-day Chinese earmarking 3% of their population as mentally handicapped and removing them from the production system. It is necessary to point out here that no endorsement of the Chinese political system is implicit in these remarks. My purpose is simply to contrast two vastly different technological/economic systems and look at their implications for employment of handicapped individuals. One thing that is implicit in these remarks, and those that follow, is that one fundamental defining characteristic of full participation in society is employment. By this I mean useful

employment in workplaces that are as normal as possible. Thus, it follows that if we are to let mentally handicapped individuals participate fully in our society we must have jobs, not ten thousand segregated sheltered workshops making charity articles that are stamped "made by the handicapped."

The point that a society's concept of mental retardation is determined by economic and technological developments will not be belabored further. We now turn to some speculations on, and suggestions for, the future. If a large number of retarded individuals in Western societies have acquired their labels at least in part because of the technological and economic structure, it seems logical to ask: What technological developments are on the horizon and what implications do they have for mentally handicapped individuals? Further, it might be asked, can one envision a viable economic system that would provide a greater chance for true normalization of mentally handicapped individuals than do the high-technology, energy-intensive systems of the West that now exclude these individuals? Turning to the former question first, what is on the horizon? In the next few decades, Western industrial societies will have to come to grips with two crucial problems, growing unemployment and dependence on disappearing fossil fuels. These are problems that result from an energy- and capital-intensive industrial system. Yet, instead of recognizing this and turning to alternatives (which do exist and which I will discuss), the solution proposed at least in the United States seems to be more of the same--more high-technology, more centralization, more automation, more energy use.

As I was preparing this paper last winter, the February 1978 issue of the magazine Scientific American appeared in my mailbox. I will submit two items from this publication to support my conjecture that sentiment in the United States is not on the side of scaling the economy to reflect a growing concern for the energy crisis and the human crisis of unemployment. On page six, a full-page essay appears that is sponsored by the Gould Corporation of Illinois. The entire essay is spent castigating the National Energy Plan of the Carter Administration. The Energy Plan of the Carter Administration, which even most Western European governments have criticized for its lack of emphasis on conservation and alternative sources of energy, is taken to task in the Gould essay for too much of an emphasis on conservation. It is clear what sort of technological future the Gould Corporation has in mind, and it is equally clear that there will be no place for handicapped individuals in this future.

On page 62 of the same magazine, there appears an article titled "Computer-Controlled Assembly" with the sub-heading, "An Experimental Programmable Robot Suggests that Robots Would Be Cost-Effective for the Assembly of Products in Lower Volumes." The authors state in the opening sentence that the economic problems of the United States that motivate their work are continuing inflation and competition from other countries. Two things are instructive here. First, I find it interesting that these research engineers did not choose unemployment and energy usage as the most pressing problems of the day. Secondly, their perspective is clearly nationalistic rather than global in nature. I am, of course, referring to the fact that competition from other countries at least partially motivates the research. Unlike the authors, I think most of

us here would subscribe to the view that any long-term answer to economic problems must recognize global interdependency. The article continues by alluding to the "widespread awareness" that productivity must be increased by decreasing the man-hours required to produce industrial goods of all kinds and discussing the "core problems of assembly" which turn out not to involve humans in any way. The only allusion to the human element occurs near the end of the article where the authors claim the machines would be useful to humans in hazardous environments. Unfortunately, it is eminently clear from the previous ten pages that this is not their primary purpose. The intent is clearly to create an economy where a few highly trained individuals direct a highly productive energy-intensive industrial plant. And for the rest of the population, what? And for handicapped individuals, what?

I put forth these examples as indicators of the directions in which those who control our technology are directing our economic future. What are the implications? It only seems reasonable to expect that an increasingly energy-intensive economy, coupled with a steadily increasing population, will result in a larger proportion of the population becoming "surplus." More and more people will be labeled retarded, learning disabled, handicapped, etc., and the opportunities for their true economic participation will be fewer. I offer as tentative evidence a negative trend that I have noticed in the past two years. Specifically, I discern a growing backlash against the normalization movement. Recently, several articles have appeared in a number of different journals, including Mental Retardation, Exceptional Parent, and Education and Training of the Mentally Retarded, that are critical of the normalization principle, or at least certain applications of it. I hope I am wrong,

but I predict that this backlash against the normalization principle will increase in the years to come. As the principle is applied with increasing frequency the structures of society will become increasingly resistant. For example, there is probably not one participant from the United States at this Congress who has not seen group homes for handicapped persons vehemently opposed by residents in or near his community. Industry, as presently structured, provides another example because it will not absorb anywhere near the number of handicapped individuals that need employment.

Now the question becomes, what will be the response of special educators when faced with the resistance of societal structures to the normalization principle? One of the purposes of this presentation is to prevent what I fear will be our response, namely, to criticize the normalization concept rather than the societal structures. Indeed, this has already started to happen, as evidenced by the increasing frequency with which such criticisms are appearing in a number of different publications concerned with handicapped individuals (for example, Asnes & Haagenson, 1978; Beckman-Brindley & Tavormina, 1978; Rhoades & Browning, 1977; Schwartz, 1977). In this vein, I would like to answer a question posed by Burton Blatt, who asked, "Why do we, in the United States, know more about and do less for disabled people than other Western cultures." (1977, p. 25). I would answer that applying our knowledge would mean changing economic and technological structures, and this we will never advocate because we fear that those whose power depends on the present structures would resist. This may be true, but it will never c[illegible]e unless we as special educators challenge it.

At the risk of increasing the feeling of pessimism that this talk has probably already engendered, I would like to point to another development that seems to be a result of the exclusion process discussed above and which seems to have some historical precedents. What I am referring to is the tendency for a society that has excluded certain individuals from full economic participation to support intellectual philosophies that justify the exclusion (i.e., the "blame of the victim" phenomenon). Social philosophers of this type have often turned to biology for their justification of the economic status quo. The classic case is, of course, the Social Darwinism of the latter half of the nineteenth century. The hierarchical, unequal, and competitive society that was spawned by the laissez-faire capitalism of the period was justified by an appeal to the Darwinian concept of natural selection. The losers in the economic battle were supposedly on the bottom because of their inherent biological weakness, not because of social conditions. "Fitness" was seen as directly correlated with amount of material wealth.

The Social Darwinism of the late nineteenth century profoundly affected the social position and treatment of mentally retarded individuals in American society. Social Darwinism paved the way for, and is inextricably linked with, the eugenics movement of the first four decades of this century. The eugenicists carried the doctrines of Social Darwinism one step further and argued for restricting the breeding of the "genetically unfit." The eugenics movement is important in the history of the treatment of mentally handicapped individuals because it was one of the primary advocates of the sterilization and segregation of mentally retarded individuals. Thus, the tendency for

Western societies to turn to biological arguments to explain the surplus populations that their technologies create is nothing new. It is amply documented in Allan Chase's book, The Legacy of Malthus (1977). The inevitable response to this failure of the economic/technological system has been not to question the system, but to blame the victim and assuage any guilt about him by arguing that he has been left out because of immutable biological predestination.

What is of concern to myself, and what I feel should be a concern for all special educators, is that in recent years, along with the technological trends discussed earlier, there has been a resurgence of interest in biological determinism in both academic circles and the popular media (see Gould, 1974 a, b). By new biological determinism I mean the wide range of theories and speculations on innate or genetic determinants of human intelligence and social behavior that have recently been put forth. I feel that the dangers in this intellectual movement are twofold. First is the danger that the writings of the legitimate scientists in fields such as sociobiology and behavioral genetics will be distorted in the popular media. Indeed, in the United States this has already happened. Thus, both the responsible scientists in those fields, and special educators (who have a vested interest in ensuring that distorted doctrines of biological determinism do not dominate social discourse) should be in the forefront of those criticizing unwarranted extrapolations of biological principles into the social realm.

My second concern is with the growing number of warmed-over Social Darwinists who are interested in biology only as a justification for social policies that are based on the concept of surplus population.

Two points about this trend should be emphasized. First, we are not dealing with an unimportant fringe group with no outlets for their views. The polemics of these individuals, at least in the United States, have commanded attention in the mass media, in academic and semi-popular journals, at conferences, and on lecture tours. My second point is that we are not dealing here with poor dispassionate scientists who are peacefully seeking the truth while shunning the limelight. We are dealing with the exponents of social and political viewpoints that are stated in a way that is virtually indistinguishable from the Social Darwinism of one-hundred years ago. As evidence, I quote from the well-known article by Richard Herrnstein, published by The Atlantic in 1971, "...as technology advances, the tendency to be unemployed may run in the genes of a family about as certainly as bad teeth do now...As the wealth and complexity of human society grow, there will be precipitated out a mass of humanity, a low-capacity residue that may be unable to master the common occupations..." Or, consider the biologically justified racism of William Shockley who, writing in the journal Phi Delta Kappan, said, "Nature has color-coded groups of individuals so that statistically reliable predictions of their adaptability to intellectually rewarding and effective lives can easily be made" (1972, p. 307).

The link between Social Darwinism and support of a certain economic/technological model is direct, and has been so since the early writings of Spencer and Galton. Thus, I hope the audience does not think the discussion of the resurgence of Social Darwinism and my earlier comments on technological developments are unrelated. One does not need to quote Spencer's work to illustrate the relationship between social

philosophy and biological determinism. Modern Social Darwinists openly acknowledge the connection between their philosophy and high-technology capitalism. Sheldon Reed, in an article not 15 years old, stated "The need for eugenics' concern is greater today than ever before because of the population explosion and the automation explosion ...It is imperative that the less intelligent be discouraged from reproducing as much as at present because machines are rapidly taking over the jobs previously held by the least able of our fellow men" (1965, p. 74). To sum up this aspect of my discussion, I feel that the new biological determinism is another in a long line of arguments that have been used to convince those of us in industrial societies that the surplus populations in our midst are the work of nature and not our societal structures. Historically, public acceptance of the philosophy of Social Darwinism has had disastrous consequences for handicapped individuals and there is no reason to believe that this would be any less true in the present time. Thus, I feel that this intellectual doctrine should be actively repudiated by advocates of handicapped individuals whenever and wherever it rears its head. At the very least, we can all agree that special educators should be discussing intellectual movements that might have an impact on those whom they are dedicated to educating.

It seems appropriate now to consider the question, can one envision a viable technological/economic system that would provide a greater chance for true normalization of mentally handicapped persons than the present system? I wish to propose that there are models for such a system, some existing only on paper, others having actually been put into practice. The one model I have chosen to discuss is the intermediate

technology of E. F. Schumacher. His scheme, popularized in his famous book, Small Is Beautiful, involves bringing the scale and values of the production process in line with human needs. Intermediate technology is not capital or energy intensive, but instead emphasizes full employment and production based on non-wasteful use of local materials. A few quotes from Schumacher's book will give some of the flavor of intermediate technology, while also pointing to its relevance for developing countries and the surplus populations of the developed countries.

> As Ghandi said, the poor of the world cannot be helped by mass production; only by production by the masses. The system of mass production, based on sophisticated, highly capital-intensive, high energy-input dependent, and human labor-saving technology, presupposes that you are already rich, for a great deal of capital investment is needed to establish one single workplace. The system of production by the masses mobilises the priceless resources which are possessed by all human beings, their clever brains and skillful hands, and supports them with first class tools. The technology of mass production is inherently violent, ecologically damaging, self-defeating in terms of non-renewable resources, and stultifying for the human person. The technology of production by the masses, making use of the best of modern knowledge and experience, is conducive to decentralisation, compatible with the laws of ecology, gentle in its use of scarce resources, and designed to serve the human person instead of making him the servant of machines. I have named it intermediate technology to signify that it is vastly superior to the primitive

technology of bygone ages but at the same time much simpler, cheaper, and freer than the supertechnology of the rich (p. 128).

In other words, the economic calculus which measures success in terms of output or income, without consideration of the number of jobs, is quite inappropriate in the conditions here under consideration, for it implies a static approach to the problem of development. The dynamic approach pays heed to the needs and reactions of people: their first need is to start work of some kind that brings some reward, however small...It is therefore more important that everybody should produce something than that a few people should each produce a great deal...(p. 145)

The real task may be formulated in four propositions:

First, the workplaces have to be created in the areas where people are living now, and not primarily in metropolitan areas into which they tend to migrate.

Second, that these workplaces must be, on average, cheap enough so that they can be created in large numbers without this calling for an unattainable level of capital formation and imports.

Third, that the production methods employed must be relatively simple, so that the demands for high skills are minimised, not only in the production process itself but also in matters of organisation, raw material supply, financing, marketing, and so forth.

Fourth, that production should be mainly from local materials and mainly for local use. (pp. 146-147)

Now, whether or not the technological/economic system described by Schumacher is a solution to the inflation and energy problems of industrial societies is an open question. I tend to believe that it is, but of course this is beyond both the expertise of most of us assembled here and clearly beyond the scope of this presentation. However, as educators, we may speculate as to what effects such an economic system would have on retarded individuals and other handicapped persons. The effects, I believe, are not hard to predict. Schumacher has carefully analyzed how the cost of establishing workplaces outstrips the available capital in a high-technology economy and, when combined with a steadily increasing population, results in the so-called "structural" unemployment that even mainstream economists admit is a problem for which they have no solution. Therefore, a fundamental tenet of Schumacher's scheme is that the appropriate technology for a given society is that which has a cost per workplace that is low enough so that everyone is employed before the available capital is exhausted. Thus, the concept of surplus populations is simply not operative in a system based on intermediate technology. Indeed, Schumacher has eloquently argued, "If we can recover the sense that it is the most natural thing for every person born into this world to use his hands in a productive way and that it is not beyond the wit of man to make this possible, then I think the problem of unemployment will disappear and we shall soon be asking ourselves how we can get all the work done that needs to be done" (p. 184). Special educators, please note the phrase, "<u>every</u> person born into this world."

The system of intermediate technology is <u>designed</u> to utilize the productive abilities of <u>every</u> individual in a certain locale. Production

is geared to human needs rather than to "cost-effective" criteria which, in industrial societies, renders the utilization of retarded employees "uneconomic" (a problem of which all sheltered workshop directors are well aware). Schumacher, in fact, discusses our over-dependence on economic considerations in conducting social affairs. For example, a proposal can be said to be immoral, degrading, or wrong, but it still has a chance unless it is pronounced "uneconomic"--then it is most assuredly dead. Our focus has been on the products produced rather than on the person doing the producing. Thus, the ideal situation for an employer is to have output without employees, as is clear from my earlier example on automation. The orientation of intermediate technology is diametrically opposed to values such as these. Instead, the fundamental criterion for a system of production is that it let everyone participate. If one accepts the applicability of the concept of surplus populations to mentally retarded persons, it appears that the economic system described by Schumacher is one in which the potential for true normalization is high. Indeed, a sharp contrast is provided with what might be expected if we assume a future where the economic/technology system is merely an extrapolation of what we have today. One wonders what handicapped individuals could accomplish if we had a humane technology coupled with a general view of human nature that emphasized the malleability and potential of man rather than his limitations.

This brief outline, of course, does not do full justice to the principles of intermediate technology. I urge the audience to consult Schumacher's writings or the many periodicals that are now devoted totally or partially to explaining and demonstrating intermediate

technology. I would also like to point out that intermediate technology is not the only alternative technological model available (although it is the most publicized). Several other alternative technologies have been discussed and turned into demonstration projects, such as those developed at the New Alchemy Institute in Woods Hole Massachusetts. The principles of these alternative models, not surprisingly, overlap to some extent with those of intermediate technology. It should also be emphasized here that Schumacher's scheme is no pipe-dream existing on paper only. The principles of intermediate technology have been utilized in dozens of production projects all over the world including the production of egg trays in Zambia, mini-turbines and bricks in Pakistan, and oxcarts in Malawi. In the developed world, the principles of intermediate technology have been put into practice by the Scott-Bader Commonwealth Corporation in England. Even commentators in the business world, who are prone to oppose the principles of intermediate technology, are taking a second look. Witness the increasingly positive presentations of Schumacher's ideas in magazines such as Forbes and the statement of a retired chief executive of General Motors in a recent issue of Dun's Review that "...ways of providing employment without growth must be found--and appropriate technology is the answer." The successful projects in the developing world have shown intermediate technology to be a viable aid to progress in those countries. In the developed world it is increasingly being recognized that a system of production based on intermediate technology could exist alongside a scaled down version of our present energy-intensive technology, in a hybrid system that might solve our problems of unemployment and fossil fuel shortage without a drastically reduced standard of living.

Now, it is the case that special educators do not determine economic events. However, it is our responsibility to be aware of how economic events affect the lives of the individuals we educate because the effect is remarkably direct. Economic and technological events determine employment patterns and employment is the main criterion of normalcy in most societies. Additionally, we should take responsibility for providing input to government planners regarding the effects of technology on handicapped individuals. The present author takes the optimistic position that, in advocating technological/economic systems that support the self-fulfillment of handicapped individuals, we will also be supporting economic changes that will be of benefit to society as a whole.

Some in the audience may not agree with my previous discussion of the economic effects of partial conversion to an intermediate technology. However, even if you do not, I hope that you will agree with the more fundamental argument that whatever economic/technological system our societies are moving toward, we as special educators should demand that the system provide productive employment for handicapped individuals--which gets me to the final but most general purpose of this presentation, that is, to direct some of our advocacy efforts to the more encompassing sphere of national and global politics. I feel that too often our attitude as special educators has been that we do not care which economic system or type of technology is adopted just as long as some crumbs are left over for us. I suggest a more aggressive orientation on the part of advocates for handicapped individuals involving more overt participation in the political process at all levels of government. We should support only those systems that provide mechanisms for the employment of handicapped individuals or, systems like intermediate technology that

have explicitly built in the full economic participation of every person in the society, thus ensuring the employment of handicapped individuals. I do not hesitate to call special educators into the political arena, because I feel that the humanism of the individuals in this field will result in changes that are not only beneficial for handicapped individuals but also for the world in which they live.

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